LISTING OF THE CLAIMS

1. (currently amended) A microconcentrator comprising [a] at least one microchannel formed on a substrate, at least one heating element in contact with at least one surface of the microchannel, and at least one absorbing layer disposed in said microchannel wherein analytes are sorbed on said absorbing layer and desorbed by application of heat from said heating element.

2. (currently amended) A microconcentrator according to claim 1 said heating element comprising a resistive layer selected from the group consisting of metal, metal alloys, composites of organic conducting polymers and metals and organic conducting polymers [;] and implanted ions.

3. (currently amended) A microconcentrator according to claim 1 said absorbing layer is selected from the group consisting of polymer film, sorbent materials ~~or~~ and carbon based sorbents.

4. (original) A microconcentrator according to claim 1 said absorbing layer comprising gas chromatography stationary phase.

5. (original) A microconcentrator according to claim 1 said substrate comprising silicon.

6. (original) A microconcentrator according to claim 1 said substrate comprising glass or quartz.

7. (original) A microconcentrator according to claim 1 said substrate comprising a polymer.

8. (original) A microconcentrator according to claim 1 said substrate comprising an oriented, boron doped, single side polished silicon wafer.

9. (original) A microconcentrator according to claim 1 further comprising a sealing layer disposed over said microchannel.

10. (original) A microconcentrator according to claim 9 said sealing layer comprising a second microchannel comprising a mirror image of the first microchannel disposed over said first microchannel.

11. (currently amended) A microconcentrator according to claim [1] 2 further comprising a further layer disposed on said resistive layer, said further layer selected from the group consisting of polymers, ceramics and glass.

12. (currently amended) A microconcentrator comprising a microchannel, said microchannel further comprising a microheater, said microheater comprising a resistive layer ~~formed in~~ contacting at least an interior surface of said microchannel, said microconcentrator further comprising a sealing layer formed over said microchannel and an absorbing layer formed between said resistive layer and said sealing layer.

13. (currently amended) The device according to claim 12 said resistive layer selected from the group consisting of metal, metal alloys, composites of organic conducting polymers and metals, ~~and~~ organic conducting polymers[;] and implantated ions.

14. (original) The device according to claim 12 said microchannel comprising a channel formed on a substrate said substrate selected from the group consisting of silicon, quartz, borosilicate wafers, and polymers.

15. (original) A device according to claim 12 further comprising a glass layer disposed on said resistive layer.

16. (currently amended) A method for fabricating a microconcentrator comprising the steps of:

providing a substrate;

patterning said substrate;

forming a ~~channel~~ microchannel in said substrate;

forming a resistive layer in contact with at least an interior surface of said ~~channel~~ microchannel;

forming an absorbent layer in said ~~channel~~ microchannel; and

forming a sealing layer over said ~~channel~~ microchannel.

17. (currently amended) The method according to claim 16, said step of forming said ~~channel~~ microchannel comprising etching said substrate.

18. (original) The method according to claim 16, said step of forming said resistive layer comprising ion implantation.

19. (currently amended) The method according to claim 18, said ion implantation step comprising implanting in said ~~channel~~ microchannel boron.

20. (currently amended) The method according to claim 16, said step of forming said resistive layer comprising forming a metal, metal alloy, organic conducting polymer or polymer-metal composite in said ~~channel~~ microchannel.

21. (currently amended) The method according to claim 16 said step of forming said resistive layer comprising sputtering aluminum or an alloy thereof in said ~~channel~~ microchannel.

22. (original) The method according to claim 16 comprising the further step of applying a layer of glass over said resistive layer.

23. (currently amended) A device comprising a microconcentrator according to claim 1 and a sensor formed on [a] said substrate.

24. (original) The device according to claim 23 further comprising a micropump.

25. (currently amended) The device according to claim 23 further comprising a gas chromatography ~~chromatograpy~~ separator.

26. (original) The device according to claim 23 said substrate comprising a single silicon wafer.

27. (original) The device according to claim 1 comprising a gas chromatograph injector.

28. (currently amended) A microconcentrator comprising a microchannel comprising an interior surface, a heating element in contact with at least the interior surface of the microchannel, a sealing layer formed over said heating element and an absorbing layer formed between said heating element and said sealing layer.

29. (original) A sensitivity enhancer for a sensor, a sensor array, detector or gas chromatograph comprising a microconcentrator according to claim 1.

30. (original) An injector for sensors, sensor arrays, detectors and gas chromatographs comprising a microconcentrator according to claim 1.

31. (original) A modulator in two dimensional gas chromatography and comprehensive two dimensional gas chromatography comprising a microconcentrator according to claim 1.